



LAB ACTIVITY: AIR TRAPPED IN ICE

OBJECTIVE: Students will:

- + Observe air bubbles in ice;
- + Compare them to air trapped in glacial ice;

MATERIALS:

- + Ice cubes
- + Plastic lid,
- + Container of hot water
- + Liquid dish detergent
- + Hand lens
- + Paper and pencil
- + **Student Sheets**

PROCEDURE:

1. Pass out **Student Sheets** and read over and discuss the introductory information with the class.
2. Make a large drawing or a transparency of the lab set-up and discuss it with the class.
3. Assign students to groups of 2-4 and supply each group with the required materials.
4. Have students observe the ice cube with the hand lens and note the quantity and location of air bubbles trapped in the ice.
 - + Students should record their observations in **PART 1** of their lab sheet.
 - + Observations can be recorded as a drawing or in written format.
5. Lead a discussion with the class about how the bubbles may have become part of the ice cube.
 - + Record these ideas on chart paper or another format.

Teacher Sheet 2

6. Have students add a drop of detergent to the ice cube as it sits on the plastic lid above the container of hot water.

+ The ice cube will begin to melt, releasing the bubbles into the air.

7. Students should observe the ice cube with the hand lens as it melts.

+ Air bubble will be released and become trapped in the soap.

+ Students should be taking notes and drawing their observations.

8. Lead a discussion with the class about they saw happen.

+ Record the answers on chart paper or another format.

9. Challenge students to develop a way to "capture" the day old air so it cannot become contaminated by the air in the classroom.

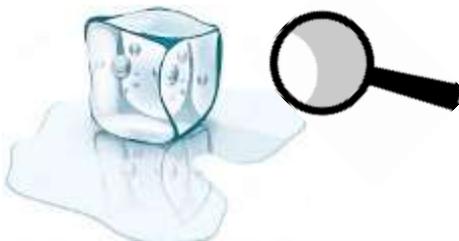
+ Their ideas should be included in **PART 2: APPLICATION**

+ Draw parallels with the fossil air trapped in glacial ice.

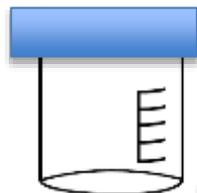
10. Instruct students to answer questions in **PART 3: ANALYSIS.**

LAB SET-UP:

Before melting



During melting



Hot water